Amendments to the Claims

The following listing of claims replaces all prior versions of the claims and all prior listings of the claims in the present application.

1-34. (canceled)

35. (new) A method for preparing a crosslinkable elastomeric composition:

wherein the composition comprises:

at least one thermoplastic polymer selected from amorphous polymers having a glass transition temperature (T_g) higher than 80° C or crystalline polymers having a melting temperature (T_m) higher than 190° C; and

at least one diene elastomeric polymer; and

wherein the method comprises:

pre-mixing the at least one thermoplastic polymer with a first portion of the at least one diene elastomeric polymer to obtain a masterbatch, the pre-mixing being carried out at a temperature not lower than T_g or not lower than (T_m - 20° C); and

mixing the masterbatch with a remaining portion of the at least one diene elastomeric polymer.

36. (new) The method of claim 35, wherein the first portion of the at least one diene elastomeric polymer is from 20%-by-weight to 90%-by-weight with respect to a total weight of the first and remaining portions of the at least one diene elastomeric polymer.

37. (new) The method of claim 35, wherein the first portion of the at least one diene elastomeric polymer is from 30%-by-weight to 50%-by-weight with respect to a total weight of the first and remaining portions of the at least one diene elastomeric polymer.

38. (new) The method of claim 35, wherein the at least one thermoplastic polymer is present in the elastomeric composition in an amount from 0.1 phr to 100 phr.

39. (new) The method of claim 35, wherein the at least one thermoplastic polymer is present in the elastomeric composition in an amount from 3 phr to 60 phr.

40. (new) The method of claim 35, wherein the at least one thermoplastic polymer is present in the elastomeric composition in an amount from 5 phr to 40 phr.

41. (new) The method of claim 35, wherein the pre-mixing comprises:

feeding the at least one thermoplastic polymer into at least one extruder;

mixing the at least one thermoplastic polymer at a temperature not lower than T_g or not lower than (T_m - 20° C);

feeding the first portion of the at least one diene elastomeric polymer into the at least one extruder;

mixing the first portion of the at least one diene elastomeric polymer;

dispersing the at least one thermoplastic polymer into the first portion of the at least one diene elastomeric polymer to obtain the masterbatch; and

extruding the masterbatch through a discharge opening of the at least one extruder;

wherein the at least one extruder comprises:

a housing; and

at least one screw rotatably mounted in the housing; and

wherein the housing comprises:

at least one feed opening; and

the discharge opening.

42. (new) The method of claim 41, wherein the at least one extruder comprises a co-rotating, twin-screw extruder.

43. (new) The method of claim 41, wherein the masterbatch is obtained in a form of a continuous ribbon or in a form of a subdivided product.

44. (new) The method of claim 41, wherein the at least one thermoplastic polymer is dispersed in the masterbatch in a form of particles having an average diameter not greater than 20 μm.

45. (new) The method of claim 41, wherein the at least one thermoplastic polymer is dispersed in the masterbatch in a form of particles having an average diameter between 8 μm and 18 μm.

46. (new) The method of claim 35, wherein the at least one thermoplastic polymer comprises one or more of: cycloolefin polymers, poly(phenylene ethers), styrene-based polymers, polyesters, polyamides, polyimides, polycarbonates, polysulfones, polyvinylchlorides, polymethyl(meth)acrylates, polyacrilonitriles, polyvinylpyrrolidones, aromatic polyketones, poly(alkylene oxides), aromatic polysulfides, and perfluorurated polyalkylenes.

47. (new) The method of claim 35, wherein the at least one thermoplastic polymer comprises one or more of: cycloolefin polymers, poly(phenylene ethers), styrene-based polymers, and polyesters.

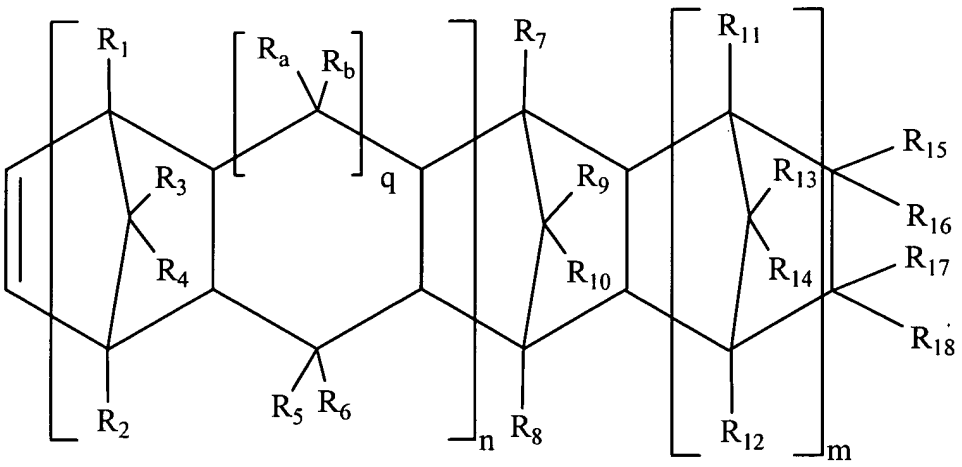
48. (new) The method of claim 35, wherein the at least one thermoplastic polymer comprises at least one cycloolefin polymer, and

wherein the at least one cycloolefin polymer comprises one or more of:

a cycloolefin random copolymer obtained by copolymerizing (i) at least one aliphatic α-olefin and (ii) at least one cycloolefin represented by a following formula (I) and, optionally, (iii) a polyene;

a ring-opening polymer of at least one cycloolefin represented by the following formula (I); and

a hydrogenation product of a ring-opening polymer of at least one cycloolefin represented by the following formula (I):



(I)

wherein:

n is 0 or a positive integer;

m is 0 or a positive integer;

q is 0 or 1;

R_1, R_2, R_3, R_4, R_5, R_6, R_7, R_8, R_9, R_{10}, R_{11}, R_{12}, R_{13}, R_{14}, R_{15}, R_{16}, R_{17}, R_{18}, R_a, and R_b, which may be equal to or different from each other, represent a hydrogen atom, a halogen atom, or an aliphatic, an alicyclic, or an aromatic hydrocarbon group;

R_{15}, R_{16}, R_{17}, and R_{18} may be linked to each other to form a monocyclic or polycyclic group that may have double bonds; and

R_{15} and R_{16} or R_{17} and R_{18} may together form an alkylidene group.

49. (new) The method of claim 48, wherein the at least one aliphatic α-olefin is an olefin of formula CH_2=CH-R, in which R represents a hydrogen atom or a linear or branched alkyl group containing from 1 to 12 carbon atoms.

50. (new) The method of claim 47, wherein the poly(phenylene ethers) (PPE) are selected from thermoplastic engineering resins obtained by oxidative coupling polymerization of alkyl-substituted phenols.

51. (new) The method of claim 50, wherein the thermoplastic engineering resins include poly(2,6-dialkyl-1,4-phenylene ethers).

52. (new) The method of claim 47, wherein the styrene-based polymers have atactic configurations; syndiotactic configurations; isotactic configurations; atactic and syndiotactic configurations; atactic and isotactic configurations; syndiotactic and isotactic configurations; or atactic, syndiotactic, and isotactic configurations.

53. (new) The method of claim 52, wherein the styrene-based polymers comprise one or more of: polystyrene, poly(alkylstyrene), poly(halogenated styrene), poly(halogenated alkylstyrene), poly(alkoxystyrene), poly(vinyl benzoate), hydrogenated polymers of polystyrene, hydrogenated polymers of poly(alkylstyrene), hydrogenated polymers of poly(halogenated styrene), hydrogenated polymers of poly(halogenated alkylstyrene), hydrogenated polymers of poly(alkoxystyrene), and hydrogenated polymers of poly(vinyl benzoate).

54. (new) The method of claim 47, wherein the polyesters are selected from polymer reaction products of at least one aliphatic or aromatic polycarboxylic acid ester of anhydride and at least one diol.

55. (new) The method of claim 54, wherein the polyesters comprise one or more of: poly(trans-1,4-cyclohexylene-(C_2-C_6)-alkane dicarboxylates; poly(cis- or trans-1,4-cyclohexanedimethylene)alkanedicarboxylates; and poly-(C_2-C_4)-alkylene terephthalates.

56. (new) The method of claim 46, wherein the at least one thermoplastic polymer, either amorphous or crystalline, contains functional groups selected from: hydroxy groups, carboxylic groups, anhydride groups, ester groups, silane groups, and/or epoxide groups.

57. (new) The method of claim 35, wherein the at least one diene elastomeric polymer has a glass transition temperature (T_g) below 20° C.

58. (new) The method of claim 57, wherein the at least one diene elastomeric polymer comprises one or more of: cis-1,4-polyisoprene; 3,4-polyisoprene; polybutadiene; optionally halogenated isoprene/isobutene copolymers; 1,3-butadiene/acrylonitrile copolymers; styrene/1,3-butadiene copolymers; styrene/isoprene/1,3-butadiene copolymers; and styrene/1,3-butadiene/acrylonitrile copolymers.

59. (new) The method of claim 35, wherein the elastomeric composition comprises at least one elastomeric polymer of one or more monoolefins with an olefinic comonomer or derivatives of the at least one elastomeric polymer of one or more monoolefins with an olefinic comonomer.

60. (new) The method of claim 59, wherein the at least one elastomeric polymer comprises one or more of: ethylene/propylene copolymers (EPR) or ethylene/propylene/diene copolymers (EPDM); polyisobutene; butyl rubbers; and halobutyl rubbers.

61. (new) The method of claim 35, wherein at least one reinforcing filler is present in the elastomeric composition in an amount between 0.1 phr and 120 phr.

62. (new) The method of claim 61, wherein the at least one reinforcing filler comprises carbon black.

63. (new) The method of claim 61, wherein the at least one reinforcing filler comprises silica.

64. (new) An elastomeric composition, comprising:

from 1% to 65% of at least one thermoplastic polymer; and

from 35% to 99% of at least one diene elastomeric polymer;

wherein the at least one thermoplastic polymer is selected from amorphous polymers having a glass transition temperature (T_g) higher than 80° C or crystalline polymers having a melting temperature (T_m) higher than 190° C, and

wherein the at least one thermoplastic polymer is dispersed in the elastomeric composition in a form of particles having an average diameter not greater than 20 μm.

65. (new) The elastomeric composition of claim 64, comprising:

from 10% to 40% of the at least one thermoplastic polymer; and

from 60% to 90% of the at least one diene elastomeric polymer.

66. (new) The elastomeric composition of claim 64, wherein the at least one thermoplastic polymer is dispersed in the elastomeric composition in the form of particles having an average diameter between 8 μm and 18 μm.

67. (new) The elastomeric composition of claim 64, wherein the at least one thermoplastic polymer comprises one or more of: cycloolefin polymers, poly(phenylene ethers), styrene-based polymers, polyesters, polyamides, polyimides, polycarbonates, polysulfones, polyvinylchlorides, polymethyl(meth)acrylates, polyacrilonitriles, polyvinylpyrrolidones, aromatic polyketones, poly(alkylene oxides), aromatic polysulfides, and perfluorurated polyalkylenes.

68. (new) The elastomeric composition of claim 64, wherein the at least one diene elastomeric polymer has a glass transition temperature (T_g) below 20° C.

69. (new) The elastomeric composition of claim 68, wherein the at least one diene elastomeric polymer comprises one or more of: cis-1,4-polyisoprene; 3,4-polyisoprene; polybutadiene; optionally halogenated isoprene/isobutene copolymers; 1,3-butadiene/acrylonitrile copolymers; styrene/1,3-butadiene copolymers; styrene/isoprene/1,3-butadiene copolymers; and styrene/1,3-butadiene/acrylonitrile copolymers.